

### **REMARKS/ARGUMENTS**

The Office Action of January 9, 2006 has been carefully reviewed and these remarks are Applicants' response thereto. Reconsideration and allowance of the instant application are respectfully requested.

Independent claim 1-37 are pending. Claim 37 has been amended. Claims 1-5, 7, 8, 14, 18-26, and 29-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. Pub. No. 2003/0140039 to Ferguson *et al.* (Ferguson) in view of U.S. Patent No. 6,819,956 to DiLorenzo (DiLorenzo). Claims 6, 9-13, 15-17, 27-28, and 31-37 were objected to as depending from rejected claims but were deemed allowable if rewritten in independent form.

#### **Objected Claims**

Claims 6, 9-13, 15, 17, 28, and 31-37 were objected to as depending from rejected claims but were deemed allowable if rewritten in independent form to include the all the limitations of the base claims and any intervening claims. Applicants express appreciation for the indication of allowable subject matter. Applicants believe additional subject matter is allowable and the following remarks address the rejected claims.

#### **Amended Claims**

Claim 37 has been amended to correct a minor informality. No new matter has been added by this amendment.

#### **Rejection Under 35 U.S.C. § 103(a) – Rise & Seckel & Medenica**

Claims 1-5, 7, 8, 14, 16, 18-27, and 29-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ferguson in view of DiLorenzo. Claims 1 and 18 are independent. Applicants note that it is not entirely clear whether claim 27 is rejected or not and respectfully request clarification in this regard.

Claim 1 recites “detecting that the received signal has poor signal quality by determining that an amount of the data points exhibiting poor signal quality within the moving time window has exceeded a predetermined threshold.” The Office Action has cited paragraphs 28 and 218 of Ferguson as disclosing this feature of claim 1 and these paragraphs are provided below:

[0028] In one embodiment, a graphical user interface (GUI) may be included whereby a user or operator may view the received data set, i.e., to visually inspect the data for bad data points, i.e., outliers. The GUI may further provide various tools for modifying the data, including tools for “cutting” the bad data from the set.

Ferguson, pg. 3, ¶ 28.

[0218] Thus, in one embodiment, the preprocess may operate as a data filter, analyzing input data, detecting outliers, and removing the outliers from the data set. The filter parameters may simply be a predetermined value limit or range against which a data value may be tested. If the value falls outside the range, the value may be removed, or clipped to the limit value, as desired. In one embodiment, the limit(s) or range may be determined dynamically. For example, in one embodiment, the range may be determined based on the standard deviation of a moving window of data in the data set, e.g., any value outside a two sigma band for a moving window of 100 data points may be clipped or removed. As mentioned above, the data filter may also operate to replace the outlier values with more appropriate replacement values.

Ferguson, pg. 15, ¶ 218. These cited sections of Ferguson, as well as the remainder of Ferguson, have been reviewed and no disclosure has been found related to the above recited feature of claim 1. Instead, Ferguson merely discloses that data points may be deleted or clipped based on whether the individual data points exceed a threshold value. While Ferguson does discuss a moving window, this window is merely used to dynamically determine the value of the threshold value. However, Applicants have been unable to locate any portion of Ferguson disclosing, suggesting or teaching “detecting that the received signal has poor signal quality by determining that an amount of the data points exhibiting poor signal quality within the moving time window has exceeded a predetermined threshold.” Instead, Ferguson determines and treats each data point individually (i.e. whether or not to delete an outlier data point is determined individually with respect to the threshold). Thus, Ferguson fails to treat a received signal based on the fact

that “an amount of the data points” in the signal exceed a predetermined threshold. For example but without limitation, with the present invention an embodiment might detect the signal was poor quality if 40 percent of the data points in a window exceed a predetermined threshold and the signal could be ignored. In contrast, the system of Ferguson would simply examine each data point and independently delete or truncate a particular data point that exceeded the threshold, while using the other data points that did not exceed the threshold.

Applicants further note that Ferguson does not disclose, suggest or teach “ignoring the received signal experiencing poor signal quality in signal processing” as is further recited in claim 1. Instead, Ferguson discloses and teaches that deleted data points should be replaced. (See Ferguson, pg. 13, ¶ 190).

Therefore, Ferguson fails to disclose, suggest or teach all the features of claim 1. The Office Action did not suggest that DiLorenzo could correct the above noted deficiency in Ferguson, nor does DiLorenzo appear capable of doing so. Accordingly, the combination of Ferguson and DiLorenzo fails to disclose, suggest or teach all the features of claim 1. Therefore, the combination of Ferguson and DiLorenzo fails to support a *prima facie* case of obviousness with respect to independent claim 1. Thus, claim 1 is patentable over the combination of Ferguson and DiLorenzo.

Independent claim 18 recites a medical device system having computer readable instructions for the performing of steps similar to the steps recited in claim 1. Accordingly, claim 18 is patentable over the combination of Ferguson and DiLorenzo for at least the reasons discussed above with respect to claim 1 and for the additional features recited therein.

The remaining rejected claims depend from claim 1 or claim 18 and are patentable over the references of record for the reasons discussed above and for the additional limitations recited therein.

Accordingly, withdrawal of this ground of rejection is respectfully requested.

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CONCLUSION

All rejections having been addressed, Applicants respectfully submit that the instant application is in condition for allowance, and respectfully solicit prompt notification of the same.

Respectfully submitted,

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